

## **REASONS FOR ALLOWANCE**

Claims 3, 4, 6-9, 11-15, 21-26 and 28-38 are allowed. The Examiner's primary reasons for allowance are as follows:

Regarding claims 3, 4, 6-9, 11-15, 26 and 28, the prior art does not disclose or adequately suggest the claimed apparatus, wherein a combustion chamber containing a porous material with inter-connected hollow spaces suitable in size for flame development is provided in combination with a pre-mix chamber; said apparatus further comprising tangential supply lines for adding fuel and oxidant separately to the pre-mix chamber, and at least one additional supply line connected to a low combustion value gas supply in order to conduct the low combustion value gas into the combustion chamber.

Regarding claims 21-24 and 29, the prior art does not disclose or adequately suggest the claimed apparatus, wherein a combustion chamber containing a porous material with interconnected hollow spaces suitable in size for flame development is provided in combination with a pre-mix chamber disposed upstream from and in communication with an inlet of the combustion chamber; said apparatus further comprising separate supply lines in tangential communication with the pre-mix chamber for at least one of a fuel and an oxidation agent, and an additional supply line in communication with a low combustion value gas supply and the pre-mix chamber, in order to introduce a mixture of the fuel, the oxidation agent and the low combustion value gas into the combustion chamber; and said apparatus being less than one meter in length.

Regarding claims 25 and 30, the prior art does not disclose or adequately suggest the claimed apparatus, wherein a combustion chamber containing a porous material with inter-

connected hollow spaces suitable in size for flame development is provided in combination with a pre-mix chamber disposed upstream from and in communication with an inlet of the combustion chamber; said apparatus further comprising separate supply lines in tangential communication with the pre-mix chamber for at least one of a fuel and an oxidation agent, and an additional supply line in communication with a low combustion value gas supply and the pre-mix chamber, in order to introduce a mixture of the fuel, the oxidation agent and the lower combustion value gas into the combustion chamber.

Regarding claims 31-34, the prior art does not disclose or adequately suggest the claimed apparatus, wherein a combustion chamber containing said first and second porous materials is provided in combination with a mixing chamber disposed upstream from and in communication with the inlet to the combustion chamber; said apparatus further comprising a first supply line that feeds a fuel directly into said mixing chamber, a second supply line that feeds an oxidation agent directly into said mixing chamber, and a low combustion value gas supply line that supplies a low combustion value gas to said mixing chamber via the first supply line and/or the second supply line; said first and second supply lines being tangentially arranged to said mixing chamber.

Regarding claims 35-38, the prior art does not disclose or adequately suggest the claimed apparatus, wherein a combustion chamber containing first and second porous materials is provided in combination with a mixing chamber disposed upstream from and in communication with the inlet to the combustion chamber; said apparatus further comprising a first supply line that feeds a fuel directly into said mixing chamber, a second supply line that feeds an oxidation agent directly into said mixing chamber, a third supply line that feeds a third gas stream directly

into the mixing chamber, and a low combustion value gas supply line that supplies a low combustion value gas to said mixing chamber via one or more of said first supply line, said second supply line, and said third supply line; said first, second and third supply lines being tangentially arranged to said mixing chamber.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER A. LEUNG whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter D. Griffin can be reached on (571) 272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Jennifer A. Leung/  
Primary Examiner, Art Unit 1797